IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	
Robert L. de Jong et al.	:	Examiner: M.S. Alvo
U.S. Serial No. 10/099,610	:	Group Art Unit: 1731
Filed March 15, 2002	:	
Docket No. 2212-1 (FJ-00-1-1)	:	
For: METHOD OF REMOVING HIGH DENSITY STICKIES FROM SECONDARY PAPERMAKING FIBERS	:	

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

DECLARATION OF ROBERT de JONG UNDER 37 CFR 1.132

Sir:

Robert de Jong, coinventor of the subject matter of the above-noted application, makes the following statements in support of patentability.

1. That he was awarded a BSc degree in Chemical Engineering from Massachusetts Institute of Technology in 1958 and has worked for over forty (40) years in the paper industry. As part of his work, his responsibilities included design, operation and troubleshooting of recycle pulp cleaning systems. That he is familiar with devices and systems such as forward cleaner systems, flotation devices, microflotation devices, vortex cleaners and so forth.

2. That the invention of the above-noted patent application resides, in part, in the discovery that a rejects stream of a forward cleaning system could be selectively purified of

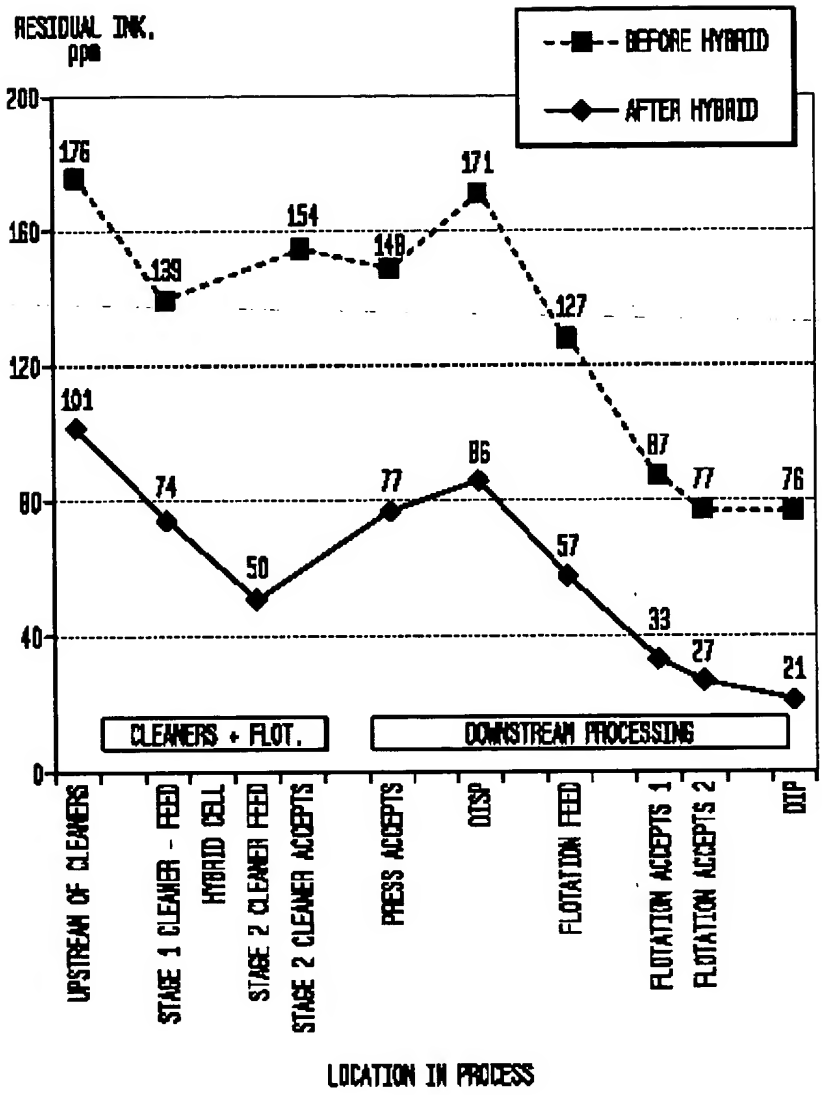
hydrophobic waste such as stickies by a flotation cell and fed forward thereby increasing system throughput and efficacy of hydrophobic waste removal, such as stickies removal.

3. That the advantages of the invention are partially enumerated on page 3, line 9 through page 4, line 6:

> In the past there were mainly small light weight stickies that managed to get through screens, and most of these small light weight stickies were subsequently removed by the gyro-cleans. More recently, heavy weight stickies started becoming a problem; presumably because some of the new pressure sensitive adhesives tend to form heavy weight stickies. The small heavy weight stickies, which managed to get through screens, were also accepted by the gyro-cleans or reverse cleaners, but they were subsequently rejected with alot of fiber by the forward cleaners. Since the heavy weight stickies from the forward cleaners are still hydrophobic, it is possible to selectively remove them with a flotation cell after the hydrophobic particles attach themselves to air bubbles in the flotation cell.
>
> The heavy weight stickies are difficult to remove by flotation if they lose their hydrophobic properties during the deinking process (e.g., due to the addition of dispersing chemicals) or if the flotation cell is operated inefficiently (e.g., at too high a consistency or with insufficient air bubbles or due to inadequate contact between stickies and air bubbles).
>
> One advantage of having the flotation cell on the forward cleaner rejects is that it is possible to keep the consistency low, since only 10 - 30% of the total flow is being treated (the percentage depends on reject flow amount). If all the stock is treated in a flotation cell, the tendency is to raise the consistency from 0.5 - 0.6% to 1% or higher to keep the size and cost of the equipment down. If the design consistency is already 1%, the heavy weight stickies removal efficiency becomes even worse when the consistency rises above 1% due to production increases. By installing a flotation cell on the forward cleaner rejects in an existing process, it is possible to design the hybrid cleaner flotation cell system at 0.5 - 0.6% consistency and obtain improved heavy weight stickies removal efficiency.

4. That, in his opinion, the results seen in **Figure 7** of the application as filed are unexpectedly superior based on the prior art with respect to ink removal:

FIG. 7



5. That the results seen with the invention with respect to stickies (which were retained on a Pulmac screen with 0.004 inch slots) and dirt removal in Tables 9-11 of the application as filed are likewise unexpectedly superior to prior art methods.

6. That he has read the Office Action of May 27, 2004 as well as United States Patent No. 5,882,475 to *Vikio et al.*

7. That, in his opinion, the '475 *Vikio et al.* patent does not teach or remotely suggest selectively purifying the rejects stream of a forward cleaner system of hydrophobic waste and feeding forward the purified stream. Rather, the '475 Vikio et al. patent appears to be suggesting that only the fine fraction of the waste stream can be purified of waste by non-selective methods and that the purified water can be returned to the system or discarded. The coarse fraction containing the large contaminants (including large stickies and ink particles retained on the slotted fractionating screens) is re-fed to the cleaner system upstream from the point at which it is taken.

8. That he reaches the above conclusion based, in part, on Col. 5 of *Vikio et al.* '475, line 15 and following:

> Fractionator **52** divides the slurry flow into a fine fraction stream **53** and a coarse fraction stream **56**. The fine fraction stream **53** typically contains fine contaminants and ink. For example, stream **53** preferably contains most of the ink and other fine undesirable particles introduced in conduit(s) **20**, **20'**, plus fines and small filler particles, among other things, which are typically smaller than **100** microns. Optionally this stream may be further treated in device **54**, for example via flotation or cleaning, to further isolate the ink particles. The flotation at **54** may comprise micro-flotation or flotation in a vortex flotation system, such as a GSC® flotation system as sold by Ahlstrom Machinery. If the device **54** is a cleaning device it may be a reverse vortex cleaner, or other suitable conventional cleaner, which may include, or be without, chemical treatment of the flow is to have the ink particles as larger agglomerates as described in U.S. Pat. No. 5,587,078. Stream **53** may alternatively be sent directly to waste water treatment, or from flotation or cleaning device **54** the slurry at **55** is sent to waste water treatment. The cleaned portion (a fourth stream) of the stream **53** from device **54** may be passed in line **49** back to system **10** to any position or divided illustrated in FIG. 1.

as well as the fact that micro-flotation (dissolved air flotation), vortex flotation, and reverse vortex cleaners are not devices known for selectively removing hydrophobic waste.

9. That he further notes that *Vikio et al.* '475 generally teaches that a treated rejects stream containing fiber should be re-fed upstream from the point at which it was taken. In this regard, Col. 5, line 2 is noted. This is a teaching directly contrary to the

invention of the above-noted patent application, further illustrating that *Vikio et al.* '475 does not remotely suggest the invention.

10. The undersigned Declarant declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the subject application or any patent issuing thereon.

_____ _____

Date Robert de Jong